

CLAIMS

1. Process for the treatment of baths for the exhaustion dyeing of cellulose fibres
5 with reactive dyes comprising a prefiltration, then a neutralization, then a nanofiltration and then a reverse osmosis.
2. Process according to Claim 1, which is characterized in that the dye baths are
10 industrial baths and in that they comprise hydrolysed reactive dyes which preferably belong to the trichloropyrimidine, difluoropyrimidine, difluoromonochloropyrimidine, monochlorotriazine and vinyl sulphone families.
3. Process according to Claim 1 or 2, which is characterized in that the prefiltration
15 is carried out with a filter with a membrane having a preferred cutoff threshold of between 80 and 120 microns.
4. Process according to Claims 1 to 3, which is characterized in that the
20 neutralization is carried out with acid, preferably hydrochloric acid, in the presence or absence of bubbling of air.
5. Process according to Claims 1 to 4, which is characterized in that, during the
nanofiltration, the separation is carried out in an aqueous solution, on the one
hand, of inorganic salts present at high concentrations, on the other hand, of
25 hydrolysed reactive dyes having masses close to those of the cutoff threshold of the membrane.
6. Process according to Claim 5 which is characterized in that feed liquor is
continuously introduced into a filtration module comprising a nanofiltration
30 membrane under a positive pressure to provide a liquor which has passed through the membrane (permeate) and a liquor which has transited without passing through the membrane (retentate), the retentate being continuously directed to the feed tank.
7. Process according to Claim 5, which is characterized in that, during the
35 nanofiltration, hydrolysed reactive dyes are concentrated upstream of the

membrane and inorganic salts are removed through the membrane via a concentration step.

- 5 8. Process according to Claim 5, which is characterized in that, during the nanofiltration, the concentration of hydrolysed reactive dyes upstream of the membrane is kept constant by addition of pure water and inorganic salts are removed through the membrane via a diafiltration step.
- 10 9. Process according to Claim 5, which is characterized in that the nanofiltration stage can operate
 - (i) in a single step (concentration),
 - (ii) in two steps (diafiltration-concentration), or
 - (iii) in three steps (concentration-diafiltration-concentration),preferably in three steps.
- 15 10. Process according to Claim 5, which is characterized in that the initial concentration of inorganic salts is between 30 and 100 g/l.
- 20 11. Process according to Claims 1 to 10, which is characterized in that, in the reverse osmosis step, the feed liquor has an initial concentration of inorganic salts of between 5 and 70 g/l , preferably between 10 and 15 g/l.
- 25 12. Process according to Claims 1 to 10, which is characterized in that the retentate from the reverse osmosis is composed of pure water comprising inorganic salts concentrated to between 3 and 8% by weight, without coloured waste products, at a pH preferably of between 5.5 and 6, and in that it can be reused in dyeing.